Ames Research Center Mission Overview **02.01.02**

Ames Research Center was the second of NASA's ten field centers, founded December 20, 1939, as an aeronautics research laboratory and named for National Advisory Committee for Aeronautics (NACA) chairperson Dr. Joseph S. Ames. The center is located in the heart of Silicon Valley at the core of the research cluster of high-tech companies, universities and laboratories that define the southern San Francisco Bay region. With over $3.5 billion in capital equipment, 2,800 research personnel and a $700 million plus annual budget, Ames' economic impact is significant.

Ames Research Center plays a critical role in all NASA missions supporting the nation's aeronautics and space programs. In fact, as the agency's 'center of excellence' for information technology, Ames conducts the enabling, leading-edge research and development that makes those missions possible. Ames is also NASA's lead center for astrobiology, conducting research on the origin, evolution, distribution and destiny of life in the universe.

Exploring space and the potential for life beyond Earth's boundaries is NASA's ultimate challenge. In that venture, the technology triad of biotechnology, nanotechnology and information technology holds the key to mission success as the most likely source of breakthrough technologies in the coming decades. Within NASA, Ames is the only center that has the integrated research environment capable of exploiting these disciplines and technologies. Hence, Ames is NASA's pathfinder and the agency's technology engine of the future. Both within NASA and outside, many consider Ames to be the agency's premier research institution.

Ames research in air traffic management contributes to safer, cheaper and more efficient air travel. In astrobiology, Ames focuses on the effects of gravity on living things, and the nature and distribution of stars, planets and life in the universe. In the critical information technology arena, Ames leads research in supercomputing, networking and artificial intelligence for incorporation into all NASA missions. The center conducts information and education outreach, forms collaborative partnerships and fosters commercial application of NASA technologies. Ames is developing NASA Research Park and will soon house the California Air and Space Center, a showcase for 21st century hands-on interactive education and learning.

Specific areas of basic research and technology development at NASA Ames include:

-information systems - leading-edge research in high-performance computing, networking, numerical software, artificial intelligence and human factors

-astrobiology - scientific research on all aspects of 'life in the universe'

-advanced studies in nanotechnology, biotechnology and information technology

-aerospace operations systems and aviation systems capacity

-air-traffic management and aerospace human factors

-thermal protection materials and systems; arc-jet testing

-gravitational biology, exobiology and ecosystem/Earth science

-atmospheric chemistry and physics

-runway-independent aircraft and the Space Launch Initiative

-flight simulation and wind tunnel facilities and testing

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